SURGICAL TREATMENT OF PROSTATIC ABSCESS

By NATHAN G. HALE *

DISCUSSION *by Sidney Olsen, San Francisco; Lewis Michelson, San Francisco; Robert V. Day, Los Angeles.*

THE surgical treatment of prostatic abscess is of practical importance because of its fairly frequent occurrence, the proximity of important structures increasing difficulties of intervention, the complications liable to result, and the confusing variety of recommended procedures.

The objects of all the methods employed should be to give free and dependent drainage, to interfere as little as possible with the excretory and sexual functions, to minimize complications, and to shorten convalescence.

Etiology—While gonorrhea is the most common cause of prostatic abscess, the primary infection does not necessarily have to be venereal. In this series of twenty-three cases six were of nonvenereal origin. One followed pneumonia, one during the treatment of a fractured femur, one followed the passing of a sound years after a gonorrheal infection, in one case the abscess was of metastatic origin, the focus being a series of boils, two followed influenza. The latter two may have been primary from an undiscovered cause. The general sepsis simulating influenza.

Pathology—Abscess of the prostate may be single or multiple, but more often multiple and involving more than one lobe. The position of the abscess, in relation to the urethra, varies. The extent of destruction is not the same in each lobe. The purulent process usually starts in the tubules and invades the surrounding stroma, destroying both tubules and stroma, forming a union of multiple abscesses and necrosis of the surrounding tissue. Those cases of acute prostatitis studied by A. C. Stokes show the follicles filled with a mucopurulent mass with infiltration of the interstitial tissue. The epithelium of the glands is infiltrated with leukocytes.

The ducts which carry the section become closed, the secretion and infection is retained, these minute follicles coalesce resulting in the destruction of prostatic tissue and abscess formation. If most abscesses are multiple it is unreasonable to expect the advocated procedure of needling and aspirating either by way of the urethra, perineum or rectum to give adequate drainage, and it is not unreasonable to expect a reoccurrence of an abscess following this method of evacuation.

Diagnosis—The diagnosis depends upon history, size of the abscess and symptoms produced. Palpation per rectum is most valuable. Symptoms of acute posterior urethritis and beginning prostatic abscess are similar. Palpation per rectum differentiates. Only in advance cases is fluctuation noted; this is due to the character of the glandular structure and its firm enveloping fascias. The white count is an aid, but too much importance should not be attached to it. In the gonorrheal cases there is a marked increase in small lymphocytes with a moderate leukocytosis. The temperature usually is moderately elevated.

A marked rigor is seldom experienced, but chilly sensations are common. Difficulty in urinating, with partial or complete retention, is frequently noted. A sensation of weight in the perineum, and pain on sitting, is all but universally present. Frequency is also a constant symptom.

Operation—The urethra and bladder are irrigated with an antiseptic solution. The patient is placed in the exaggerated lithotomy position, as for a perineal prostatectomy. A sound is introduced to the membranous urethra. An inverted "U" incision is made as in a perineal prostatectomy. The recto-urethralis muscle is divided, the seminal vesical retractor of "Young" is inserted. The membraneous urethra is approached but not incised. By careful dissection the entire posterior prostatic capsule is exposed. The most apparent abscess cavity is incised and thoroughly drained. A 10 F catheter is sutured

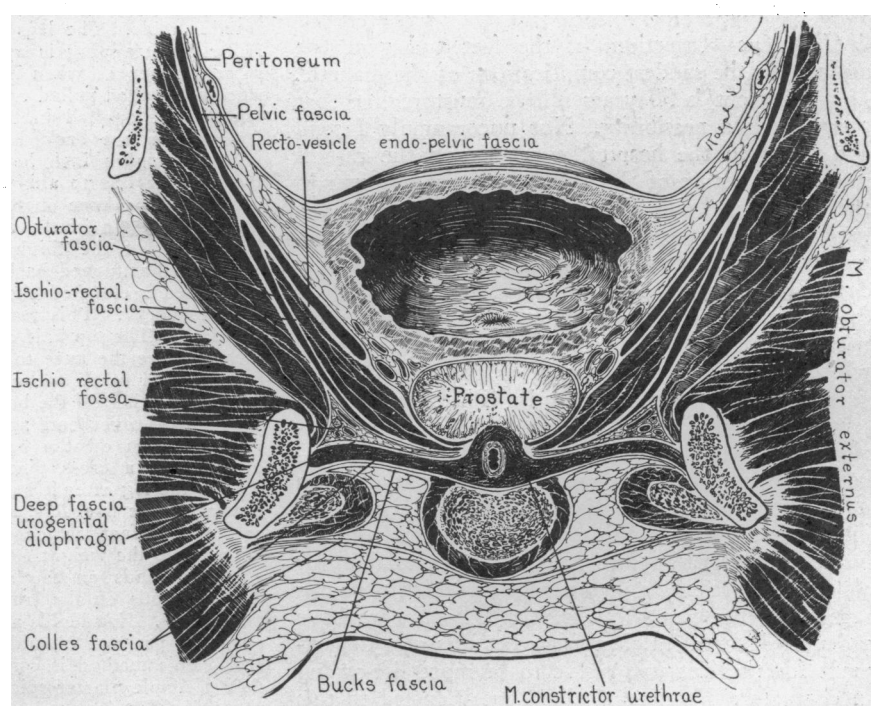

Figure 1

* **Nathan G. Hale** (400 Capital National Bank Building, Sacramento). **M. D.** University Southern California, 1914. **Graduate study:** Sacramento County Hospital, 1914-15; New York Clinics, 1915; house staff Brady Urological Hospital, 1916-17. **Previous honors:** Division urologist Eighty-seventh Division, 1918; visiting urologist Sacramento County Hospital. **Scientific organizations:** F. A. C. S., Sacramento Medical Society, C. M. A., A. M. A. **Practice** limited to Urology since 1915.

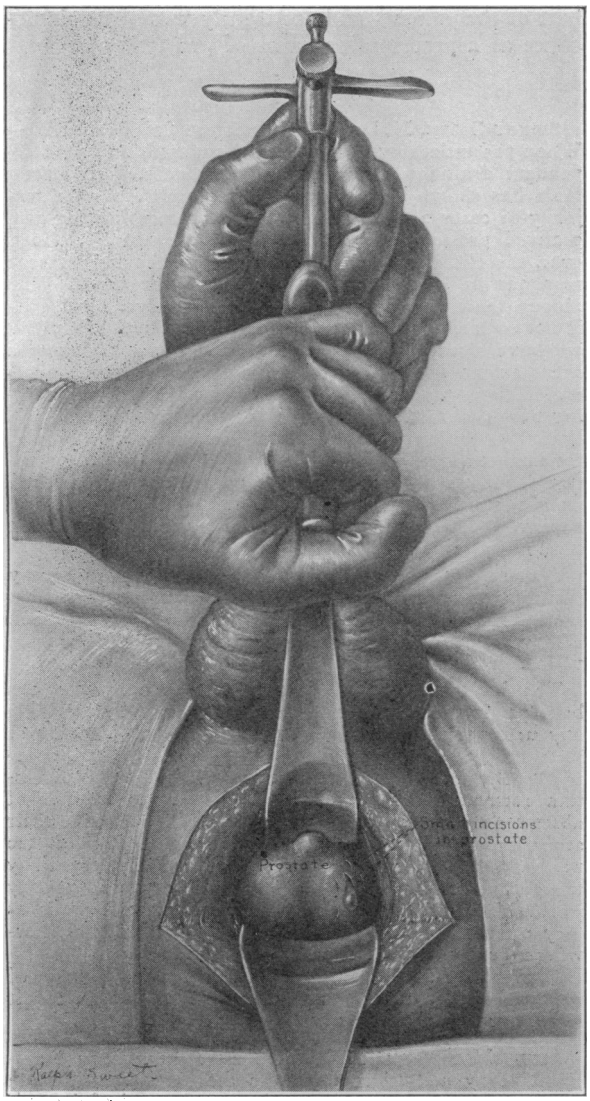

Figure 2

into this cavity for the formation of a sinus tract and instillation of an antiseptic solution.

Multiple punctures with a sharp-pointed bistoury are made in the posterior surface, keeping away from the midline. Pus often seeps from many of these stabs, although not in direct communication with the larger abscess cavity. The retractor is removed. The separated levator ani muscles are sutured in front of the rectum. The skin approximated with a subcuticular suture. No retention catheter is used.

Conclusion—1. Prostatic abscesses are frequently sequelae of nongonorrheal infections.

2. Early diagnosis and rational surgical treatment results in less destruction of prostatic tissue and shorter convalescence than palliative measures.

3. Direct vision and dependent drainage of all the abscess cavities is a satisfactory surgical procedure.

4. The best results should be expected when there is the least interference with the normal functions of the bladder, urethra, generative structures, and rectum.

5. Following convalescence, the resulting prostatitis should be treated as any case of chronic prostatitis.

6. Endoscopic examination of six patients operated on by this method showed no distortion of the posterior urethra.

Summary of Results—Twenty-three patients with prostatic abscess were operated on. Their ages varied from 52 to 18. The cause of prostatic abscess was found to be: nongonorrheal, eight; gonorrheal, fifteen. Of the nongonorrheal two were due to trauma, one pneumonia, three influenza, one following a fractured femur with trauma of perineum, and one furunculosis. The history of prostatic abscess varied from a few days to several months before surgical drainage was instituted.

The method of complete perineal exposure showed that the average number of hospital days were fifteen, and the average number of hospital days of other recommended methods were seventeen. Epididymitis complicated the complete perineal exposure in 22 per cent. Other recommended methods showed the complication of epididymitis in 32 per cent.

Epididymitis was the most frequent postoperative complication. One patient developed a tender vas deferens without an epididymitis. A sinus persisted

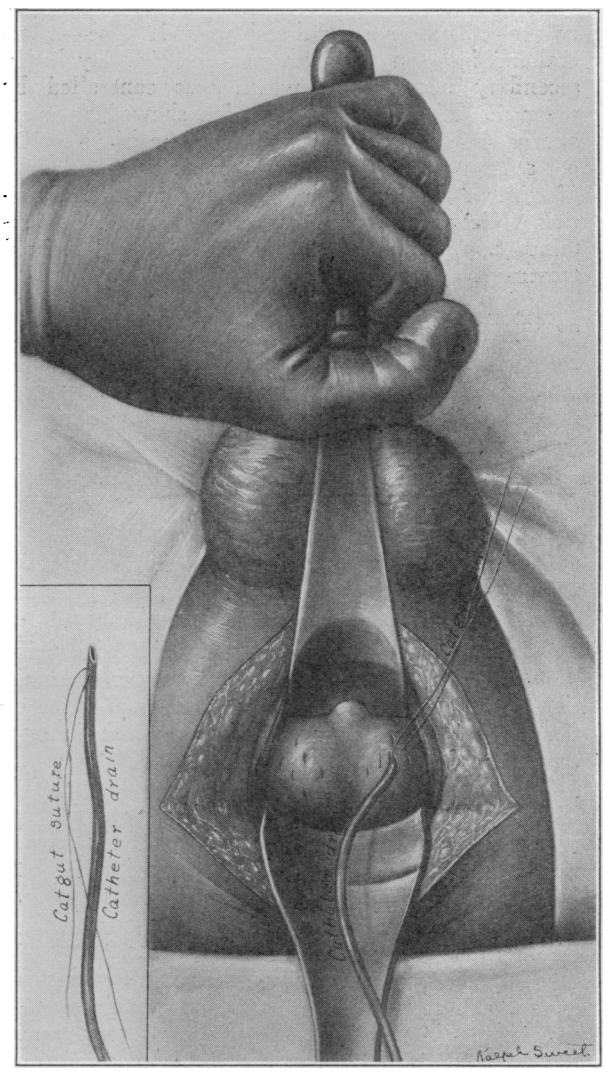

Figure 3

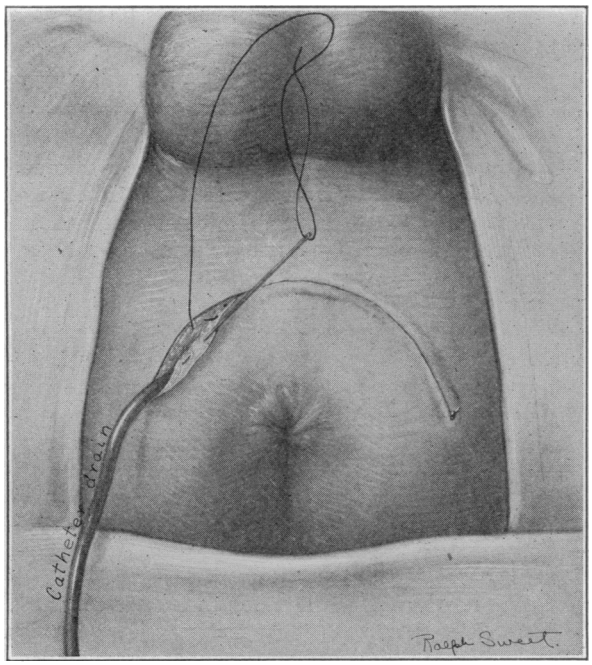

Figure 4

two months after a rectal stab wound. One—a lateral incision—on the sixth postoperative day had a secondary hemorrhage, which was controlled by pressure. The massaged secretion showed an average in the complete perineal exposure of about 20 per cent pus, which persisted over an average length of time of three months, while the prostatic secretion following other recommended methods contained approximately 40 per cent pus and resisted treatment about one month to six weeks longer.

Motile spermatozoa were found to be present in 93 per cent of those following the complete exposure and in 79 per cent following other methods. The sexual functions were normal in every case except one, and that patient stated there was a decrease.

The urine, when a patient has a prostatic abscess, does not necessarily have to be cloudy as in six of the cases the urine was macroscopically clear.

The major portion of those, however, where the urine was found to be clear, were with prostatic abscess caused from a metastatic infection.

The microscopic examination of all the urine showed pus and organisms. The prostatic examination per rectum showed enlargement, and three of the prostates were boggy or fluctuant, while the rest, on palpation, were tense.

The rectal examination was, as a rule, painful. Two patients, however, stated that there was no particular pain on palpation. The size of the stream was in every case diminished. Four of them had complete retention. The force of the stream was poor, and about 80 per cent of the patients had residual urine varying from 30 to 100 cc.

The symptoms varied with the length of history of prostatic abscess. Most had marked pain on urination with fever, chills and malaise. A very important symptom was pain in the perineum on sitting. Previous gonorrheal infections occurred in about half of the patients and apparently was of no significance as a predisposing cause of prostatic abscess.

DISCUSSION

SIDNEY OLSEN, M. D. (384 Post Street, San Francisco)—When prostatic abscess has been diagnosed, adequate dependent drainage must be sought for cure. This Doctor Hale has shown by his method and results. As the majority of cases are due to gonorrhea, a complicating generalized prostatovesiculitis may simulate abscess. However, the clinical course is different, for the former soon responds to local heat and supportive treatment. With abscess the condition is, as a rule, progressive. Our series is not so large as Hale's, one reason perhaps being that we have always depended on fluctuation as a sign to a great extent. In an abscess localized to one side, unilateral oblique perineal section is often sufficient. By keeping posterior to the transversus perinei muscles and well lateral to the central tendon and rectourethralis muscle, the bugbear—the rectum—is easily avoided and the prostate readily reached. A similar procedure can be made on the opposite side and the whole prostate explored and necessary drainage instituted. This leaves the important central structures unharmed.

A more complete exposure, as Hale has shown, whereby the central tendon and rectourethralis muscles are cut should always be made in more extensive involvement. The whole periprostatic region can be explored and the vesicles likewise drained, if involved, as often occurs.

The incidence of epididymitis as a complication can be kept down to a large extent, I believe, by avoiding any urethral instrumentation at the time of operation or in convalescence. Where the operation is done extraurethrally no functional disturbance should result. Fistula formation is uncommon, as the larger number of abscesses occur before strictures have formed with their sequellae, so that communication is not made with the urethra at operation. Most cases heal quickly, especially those complicating gonorrhea where the pus is usually sterile. The other types as a rule are more serious as they often accompany a generalized infection, foci elsewhere, or are in older debilitated individuals.

I am glad that Doctor Hale did not mention rupture of the abscess per urethra as a surgical procedure, for it is not one and should be avoided.

LEWIS MICHELSON, M. D. (490 Post Street, San Francisco)—Any method that enables the operator to obtain a better exposure of the diseased organ instead of depending upon his sense of touch, is the more surgical procedure. The method outlined in Doctor Hale's paper assures good exposure and has many advantages over the so-called "stab method." In the first place, an abscess can be located earlier in the course of the disease. Secondly, multiple abscesses are found that would otherwise be missed. Thirdly, drainage can be more intelligently carried out.

The old procedure of opening through the rectum or directly through the skin upon the abscess should be reserved for cases where the surgical facilities are poor, or those which are in extremis. I have used this latter method upon only two patients: one a typhoid who was practically in a dying condition; the other, one who had an abscess pointing in the perineum, which required an incision only about an eighth of an inch deep. A third case, in which an abscess was ruptured in introducing a sound, and drained through the urethra for weeks, had later to be operated upon under complete exposure before it would heal.

The percentage of nongonorrheal cases I have seen is less than 10 per cent of the total. One of these was in a gland which was removed for a different condition.

ROBERT V. DAY, M. D. (Detwiler Building, Los Angeles)—Doctor Hale has certainly covered the ground well in his essay on prostatic abscess. I agree with all he has said except for a slight modification of technique and a little more conservatism.

Formerly I made the Young exposure as he did. For the past few years I have used the lateral incision like Doctor Olsen. It saves the central tendon and is far less

apt to result in nerve section, an important factor. Moreover, it shortens the patient's stay in bed.

As regards their attitude toward the operative treatment of markedly acute purulent prostatitis, one might say there are three schools, viz.: the ultraconservative, the radical, and "the middle of the road."

The ultraconservative practitioner is apt to, and frequently does, allow the process to go on to dangerous extent, resulting in enormous destruction of tissue, wide dissection by the purulent exudate, and often extremely serious metastatic infections. The radical, on the other hand, reasons that even if no definite pocket of pus is found that multiple punctures cause the engorged and inflamed prostate to rapidly resolve, shortens the course of the disease and this particular complication, and leaves the patient finally in a nearer normal condition as regards his prostate. The urologist taking an intermediate stand is reasonably conservative and operates only when he feels there is a definite abscess, small or large, or that the prostate and vesiculitis has small chance of draining and resolving without operation in a reasonable length of time, that the patient's septic condition is serious, or there is definite danger of metastatic infection.

I have in my own practice (as well as observed my friends among the urologists) performed prostatotomy for supposed prostatic abscess without finding gross pus. The patients recovered rapidly, but I fear with almost a total melting down of prostatic tissue.

I do not hesitate to state that I belong to "the middle of the road" class, and the operations I have done for prostatic abscess do not total more than fifteen.

Sometimes I have found that the introduction of a catheter as an emergency for the relief of acute retention or great distention produced by a prostatic abscess, has resulted in establishing satisfactory drainage and an operation avoided. This is especially apt to be true if the catheter is left in overnight or for a day or two. A silk catheter of the bicoudee or Wishard type is comfortable and often brings about adequate drainage of the abscess in the urethra. At other times, in a man of prostatic age, when the pain is not overwhelming, there is a suspicion of prostatic obstruction other than abscess, the introduction of a cystoscope for examination may produce an appreciable tear as the urethra is straightened out by the cystoscope, and sometimes even there is a gush of pus. I wish, however, to be unmistakably understood as condemning the attempt at establishing drainage of these abscesses with a urethral sound as advocated by Stevens of New York.

As to the diagnosis, it is often difficult. Some have excruciating pain, hardness and swelling, but no fever. The blood count is not always reliable. If one waits for fluctuation, however, an irreparable amount of damage is done and patient is subjected to the extreme danger of metastatic infection.

Happy may be that man who, in the midst of the struggle to keep up the ever-increasing pace, to climb each succeeding hill and reach each near or distant goal, is overtaken by some turn of fortune, even if it be illness, which may compel a pause. Look not upon it as a misfortune of necessity, for it may be a blessing in disguise; an opportunity to be seized upon. Now you may read those books you have not had time to turn to and cultivate the friendships the true worth of which you had not realized. Now is the time to dally with the art of correspondence, perhaps to develop an avocation which will stand you in good stead again. Better still you may avail yourself of the opportunity to discover or strengthen a philosophy of living which will make you better in your work, when you take it up again, more unselfish in your dealings with others, better able to evaluate properly the difference between living for the future only and living in the present but for the present and future both.—*Boston M. and S. J.*

According to the "Wall Street Journal," bootlegging is now the fifth largest industry in the United States, has less hazards, a quicker turnover and greater profits than any other industry, and points out the great glories to be obtained from engaging in that business.

LUNG COMPRESSION AND SURGERY OF THE LUNG FOR THE RELIEF OF TUBERCULOSIS

Symposium by

PHILIP KING BROWN * AND LEO ELOESSER

Read at the Nevada Medical Association Meeting, September, 1926

PHILIP KING BROWN—Bacmeister of St. Blasien reported this last spring that, among all patients with clearly demonstrable pulmonary cavities which x-ray examination has shown to be at least the size of a cherry, only 20 per cent were still alive after six years of conservative treatment, including sanatorium treatment.

The last twenty years has witnessed marked advances in the treatment of pulmonary tuberculosis. Compression of the lung by the procedure known as artificial pneumothorax needs no defense, and physicians who have studied their cases thoroughly, using x-ray plates to check the findings while giving pneumothorax, have extended its use even to bilateral cases using a moderate degree of compression on both sides. This treatment is in line of advance of the idea that in rest of the diseased area lies the greatest chance of stopping the progress of the disease and preventing hemorrhage. Rest has been the one form of treatment that has stood the test of time, and the development of the maximum of rest in the diseased area has been one of the big problems in dealing with this disease. Absolute rest of the lungs is not possible, but a minimum of effort is thrown on the lungs by strict confinement of the patient to bed. In patients in whom the diseased process is confined to one side various means have been devised for lessening the work of that side. Sandbags have been placed on the affected side so that air would less easily raise the chest wall in the effort of breathing. Patients are often kept lying on the diseased side, thus limiting greatly the motion on that side, for it has been shown that far less air enters the lung in this restricting position and what does enter goes into the upper side. Finally in this country, and somewhat earlier in Italy, two physicians conceived independently the idea in unilateral cases of introducing air through a hollow needle inserted between the ribs into the cavity surrounding the lung on the diseased side. This air cushion compressed the lung evenly and could be increased at will in small amounts until a point was reached where air no longer entered the compressed side through the normal route by the trachea and bronchi, and all the work of breathing was carried on by the unaffected side. This gave ideal rest, and has resulted in a vast improvement in the number of cases in which the disease is arrested. In due time the air is absorbed and the lung again expands so that the reintroduction of air every few weeks is necessary. There are other and equally important factors influencing heal-

* Philip King Brown (401 Medical Building, 909 Hyde Street, San Francisco). M. D. Harvard, 1893; A. B. Harvard, 1890. Graduate study: University of Goettengen; University of Berlin. Present hospital connections: Director of Medical Service, Southern Pacific Hospital; Medical Director, Arequipa Sanatorium. Scientific organizations: Association of American Physicians, San Francisco County Medical Society, C. M. A., A. M. A.